

REMARKS

This responds to the Office Action mailed on August 9, 2004.

Claims 1, 17, and 42 are amended, no claims are canceled, and no claims are added; as a result, claims 1-45 are now pending in this application. The amendments to the claims are fully supported by the specification as originally filed. No new matter is introduced. The amendments are made to clarify the claims. Applicant respectfully requests reconsideration of the above-identified application in view of the amendments above and the remarks that follow.

§102 Rejection of the Claims

Claims 1-45 were rejected under 35 USC § 102(b) as being anticipated by Bischel et al. (US 5,513,196). Applicant traverses these grounds of rejection for at least the reasons made of record.

Applicant respectfully submits that these rejections are improper, since these rejections in the Office Action were made without specifically pointing out the manner in which the Examiner alleges that the instant claims are anticipated by Bischel et al. (hereafter Bischel). In the Office Action, it is stated:

With respect to claims 1-4, 12-20, 24, 26-29, and 39-45, Bischel show in Fig. 1-6 1 an optical component comprising: a glass substrate (col. 18, 1.47-57) doped with a laser species, a substrate waveguide defined within the glass substrate; and a diode pump laser 100 having a diode laser and a waveguide cavity abutted to an output facet of the diode pump laser to provide an extended waveguide cavity such that a laser resonator cavity of the diode pump laser includes the extended waveguide cavity, the extended waveguide cavity being positioned adjacent and along a length of the substrate waveguide.

Except for the identification of diode pump laser 100, the above quote does not indicate which items in the Figures the Examiner alleges shows the features mentioned in the above quote. Further, Applicant cannot find in Bischel a disclosure, a teaching, or a suggestion of an extended waveguide cavity being positioned adjacent, above and along a length of a substrate waveguide as recited in claim 1. For example, Bischel shows laser gain medium 100 and an external cavity laser structure 90 in Bischel Figure 1. *See also, Bischel column 5, line 66- column 6, line 2.* External cavity laser structure 90 includes waveguides 132 and 140 that are coaxial, in addition to the fact that waveguides 132 and

140 are part of the resonant cavity in Bischel. *See, Bischel column 7, line 26-33 and Bischel column 6, line 2-24.* Since waveguides 132 and 140 are coaxial, these waveguides are not adjacent and positioned along a length of each other, that is, one of the Bischel waveguides is not configured above the other waveguide. Further, Applicant cannot find in Bischel a disclosure, teaching, or suggestion of a substrate waveguide that is separate from an external cavity laser structure.

Further, it appears that Bischel relates to transmitting light coaxially. *See, Bischel column 18, lines 16-21.* As recited, the optical component of instant claim 1 is configured to transfer light from the extended waveguide guide positioned along a length of a substrate waveguide into the substrate waveguide, which is distinguished from the coaxial configuration of Bischel. Claim 1 is amended to provide further clarification.

In the Office Action, it is further stated that “figures 1-6 in Bischel clearly show a glass substrate, a waveguide defined within the glass substrate, and a diode laser pumps light into the substrate waveguide.” Applicant respectfully notes that this quote does not identify an external resonant cavity that is distinct from a substrate waveguide and configured along a length of the substrate waveguide. Thus, Applicant submits that Bischel does not disclose, teach, or suggest all the elements of claim 1. Further, Applicant submits that Bischel does not disclose, teach, or suggest all the elements as arranged in claim 1.

In the Office Action, it is also stated that “[i]t is inherent that a cladding has to have the apertures in order for the light transmission and the reflection grating is located within the waveguide.” Applicant respectfully disagrees. The Office Action has not established a *prima facie* case of inherency because, as recited in MPEP § 2112, “In relying upon the theory of inherency, the examiner must provide basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art,” citing *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). To serve as an anticipation when a reference is silent about the asserted inherent characteristic, the gap in the reference may be filled with recourse to extrinsic evidence. But, such evidence must make clear that “the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by

persons of ordinary skill.” *Continental Can Co. v. Monsanto Co.*, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). *See MPEP §2131.01 III.* Applicant respectfully submits that the Examiner has not produced extrinsic evidence to show that the aperture feature as recited in claim 15, for instance, is necessarily present in Bischel. Applicant respectfully requests that the Examiner provide evidence to support the inherency alleged in the Office Action.

Applicant respectfully submits that Bischel does not establish a proper *prima facie* case of anticipation with respect to claim 1 for at least the following reasons:

(1) The Bischel reference does not teach each and every claim element of claim 1. Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991).

(2) The Bischel reference does not teach the identical invention in as complete detail as is contained in claim 1. “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131.

(3) The Bischel reference does not teach each and every claim element arranged as in claim 1. “Anticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added).

Thus, Applicant submits that Bischel does not anticipate claim 1 and that claim 1 is patentable over Bischel for at least the reasons stated above. Applicant submits that independent claims 17 and 42 are patentable over Bischel for at least the reasons stated above with respect to claim 1. The claims depending from claims 1, 17, and 42 are patentable over Bischel for at least the reasons stated above with respect to claim 1.

Applicant respectfully requests withdrawal of these rejections of claims 1-45, and reconsideration and allowance of these claims.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE

Serial Number: 09/490,748

Filing Date: January 25, 2000

Title: **RARE-EARTH DOPED PHOSPHATE-GLASS LASERS AND ASSOCIATED METHODS**

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 371-2157 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date 9 February 2005

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop RCE, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 9th day of February, 2005.

CANDIS BUENDING

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